



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/806,818	03/22/2004	Masashi Hiroki	04190/LH	3706

1933 7590 12/14/2007  
FRISHAUF, HOLTZ, GOODMAN & CHICK, PC  
220 Fifth Avenue  
16TH Floor  
NEW YORK, NY 10001-7708

EXAMINER	
MCCLENDON, SANZA L	

ART UNIT	PAPER NUMBER
1796	

MAIL DATE	DELIVERY MODE
12/14/2007	PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	Application No. 10/806,818	Applicant(s) HIROKI ET AL.	
	Examiner Sanza L. McClendon	Art Unit 1796	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

### Period for Reply

**A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.**

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 25 September 2007.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-30 is/are pending in the application.
- 4a) Of the above claim(s) 3-10 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,2,11,12 and 17-28 is/are rejected.
- 7) ☒ Claim(s) 16 and 30 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

Art Unit: 1796

**DETAILED ACTION**  
***Response to Amendment***

1. In response to the Amendment received on September 25, 2007, the examiner has carefully considered the amendments. The examiner acknowledges the addition of new claims 29-30.

***Response to Arguments***

2. Applicant's arguments with respect to claims 1-30 have been considered but are moot in view of the new ground(s) of rejection.

***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1-2, 11-12, and 17-29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Takabayashi et al (7,244,472 and 7,084,184, both having an effective filing date of 8/25/03) in view of Mantell et al (EP 0 779 346 and 5,641,346).

Takabayashi et al teaches liquid inks for ink-jet applications. Said ink comprises a photo-acid generating agent that generates an acid upon exposure to irradiation, a coloring component, and at least one kind of polymerizable monomer that is polymerized in the presence of an acid. Said polymerizable monomer can be a compound having at least one oxetane groups, wherein it preferred to comprise two types of oxetane compounds, such as a mono-functional oxetane and a polyfunctional oxetane. Said oxetanes can be found in column 11-15, wherein those of formulas 1-2 in column 11, formulas 1, 7-8 in column 13, and formulas 4-6 in column 15 appear to have molecular weight of less than 1000. Since these appear to read on claim 1 and those as defined by applicant, these should inherently meet the limitation of claim 11. The ink composition should have a fluidity of at least 7 to 50 mPa\*s. Said ink can further comprise epoxy compounds and vinyl ether compounds—see columns 15-16. Takabayashi et al teach adding pigments and powdery materials to said ink solvent. The particles size of said pigments and

Art Unit: 1796

powder is disclosed as being from 0.1 to 0.3 microns—column 17. Additionally, basic compounds can be added to said ink composition to suppress corrosion in the ink jet head of a recording apparatus—see column 18. Said composition can additionally comprise free radically polymerizable compounds with initiators—see column 18. Said acid generating compounds are in columns 2-8, wherein at least some of those in claim 27 can be found. The method claim 28 can be found in the reference in said examples and throughout the disclosure. Takabayashi et al does not expressly teach the viscosity of said polymerizable compounds (solvent) as found in claims 19-20, however, since applicant has not established the criticality said viscosity ratios the examiners deems that any viscosities would have worked equally in the absence of evidence to the contrary and/or unexpected results. Takabayashi et al does teach using oxetane and epoxy mixtures, as well as, oxetane and vinyl ether mixtures and per examples Takabayashi et al appears to teach within these ranges mixtures of oxetane and epoxy compounds. The epoxy compounds can be found in the examples as well as in column 16. The examiner deems that at least one of these disclosed compounds reads on the formulas of claims 21 and 22

Takabayashi et al does not expressly teach preparing and preserving the photo-acid generating compound as a separate solution. However, this is a known process step in the art of ink jet compositions and printing methods. Mantell et al teaches a similar ink composition comprising an liquid epoxy or vinyl ether component, a colorant, and a photo-acid generating onium salt, wherein said composition can further comprise pH adjusting agents, such as basic compounds, vinyl compounds. Mantell et al teaches that said photo-acid generating compound can be kept separate from the curable ink composition until the ink is ejected, which can be jetted onto the substrate prior to the ink composition. This ensure that the ink will not polymerize in the print-head regardless of the amount of stray light that reach the front face of the nozzles, thus maintaining the stability of the ink composition until use.

Takabayashi et al and Mantell et al are analogous art because they are from the same field of endeavor that is the art of cationically cured inkjet ink compositions. Therefore it would have been obvious for an artisan of ordinary skill in the art to prepare and separate the photo-acid generating compound from the polymerizable ink composition and its components as suggested by Mantell et al in ink compositions as taught by Takabayashi et al. The motivation would have been a reasonable expectation of obtaining a stable ink composition as taught by Mantell et al in the absence of evidence to the contrary.

***Allowable Subject Matter***

5. Claims 16 and 30 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.


Art Unit: 1796

**Conclusion**

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sanza L. McClendon whose telephone number is (571) 272-1074. The examiner can normally be reached on Monday through Friday 7:30-4:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, James Seidleck can be reached on (571) 272-1078. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

  
Sanza L. McClendon 5/10/07  
Examiner  
Art Unit 1796

SMc